Indiana Trauma Care Committee Meeting

August 21, 2015

Indiana State Department of Health
Division of Trauma and Injury Prevention



District 1

Community Hospital - Munster

Franciscan St. Anthony – Crown Point

Franciscan St. Anthony – Michigan City

Franciscan St. Margaret – Dyer

Franciscan St. Margaret - Hammond

IU Health - La Porte

Jasper County

Methodist Hospital Northlake

Methodist Hospital Southlake

Portage Hospital

Porter Regional Hospital (Valparaiso)

District 2

Community Hospital of Bremen Elkhart General Hospital

IU Health - Goshen

IU Health – Starke Hospital

Kosciusko Community Hospital

Memorial Hospital South Bend

Pulaski Memorial Hospital

St. Catherine Regional – East Chicago

St. Joseph Regional Medical Center (Mishawaka)

St. Joseph Regional Medical Center (Plymouth)

Woodlawn Hospital

District 3

Cameron Memorial Community Hospital

DeKalb Health

Dukes Memorial Hospital

Dupont Hospital

Lutheran Hospital of Indiana

Parkview Huntington Hospital

Parkview LaGrange Hospital

Parkview Noble Hospital

Parkview Randallia

Parkview Regional Medical Center

Parkview Whitley Hospital

District 4

Franciscan St. Elizabeth - Crawfordsville

Franciscan St. Elizabeth – Lafayette Central

Franciscan St. Elizabeth – Lafayette East

IU Health – Arnett Hospital

IU Health - White Memorial

Memorial Hospital (Logansport)

St. Vincent Frankfort

St. Vincent Williamsport Hospital

District 5

Community East Health Network Community Hospital

Community North health Network Community Hospital

Community South health Network Community Hospital

Eskenazi Health

Franciscan St. Francis Health – Indianapolis

Franciscan St. Francis Health – Mooresville

Hancock Regional Hospital

Hendricks Regional Health

IU Health - Methodist Hospital

IU Health – Morgan Hospital

IU Health – North Hospital

IU Health – Riley for Children

IU Health – Saxony Hospital

Johnson Memorial Hospital

Major Hospital

Riverview Hospital

St. Vincent - Indianapolis

Witham Health Services

Witham Health Services at Anson

District 6

Community Hospital of Anderson & Madison Co.

Community Howard Regional Health

Fayette Regional Health System

Henry County Memorial Hospital

IU Health – Ball Memorial Hospital

IU Health – Blackford Hospital

IU Health – Tipton Hospital

Jay County Hospital

Marion General Hospital

Reid Hospital and Health Care Services

Rush Memorial Hospital

St. Vincent Anderson Regional Hospital

St. Vincent Kokomo

St. Vincent Mercy Hospital

District 7

Greene County General Hospital
Putnam County Hospital
St. Vincent Clay Hospital
Sullivan County Community
Hospital

Terre Haute Regional Hospital Union Hospital (Terre Haute) Union Hospital Clinton

District 8

Columbus Regional Hospital

IU Health - Bedford Hospital

IU Health – Bloomington Hospital

IU Health – Paoli Hospital

Monroe Hospital

Schneck Medical Center

St. Vincent Salem Hospital

District 9

Clark Memorial Hospital

Dearborn County Hospital

Decatur County Memorial Hospital

Floyd Memorial Hospital and Health Services

King's Daughters' Health

Margaret Mary Community Hospital

Scott County Memorial Hospital

District 10

Daviess Community Hospital

Deaconess Hospital

Deaconess Gateway Hospital

Gibson General

Good Samaritan Hospital

Memorial Hospital & Health Care Center

Perry County Memorial Hospital

St. Mary's Medical Center of Evansville

St. Mary's Warrick Hospital

Summary of Hospitals Reporting Status- Q1 2015

New to Reporting / Started Reporting Again

- Decatur County Memorial Hospital
- IU Health Saxony Hospital
- St. Vincent Frankfort Hospital
- St. Vincent Kokomo

Dropped off

- Community Howard Regional Health
- Dearborn County Hospital
- Fayette Regional Health
- Hancock Regional Hospital
- Lutheran Hospital of Indiana

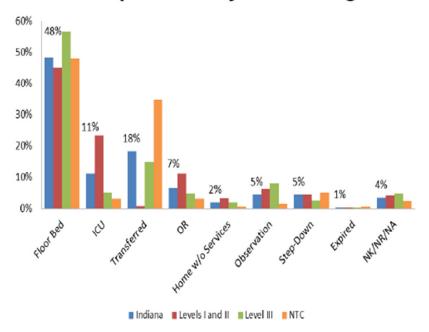
Quarter 1 2015 Statewide Report

- 7,050 incidents
- January 1, 2015 March 31, 2015
- 94 total hospitals reporting
 - 8 Level I and II Trauma Centers
 - 10 Level III Trauma Centers
 - 76 Non-Trauma Hospitals

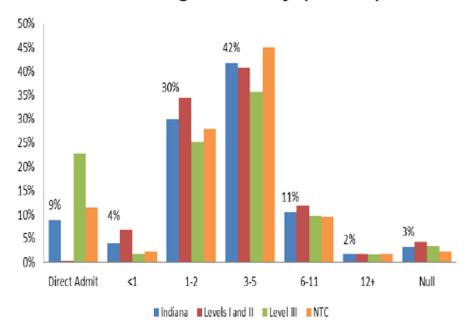


ED: Disposition / Length of Stay - Page 2

ED Disposition by Percentage

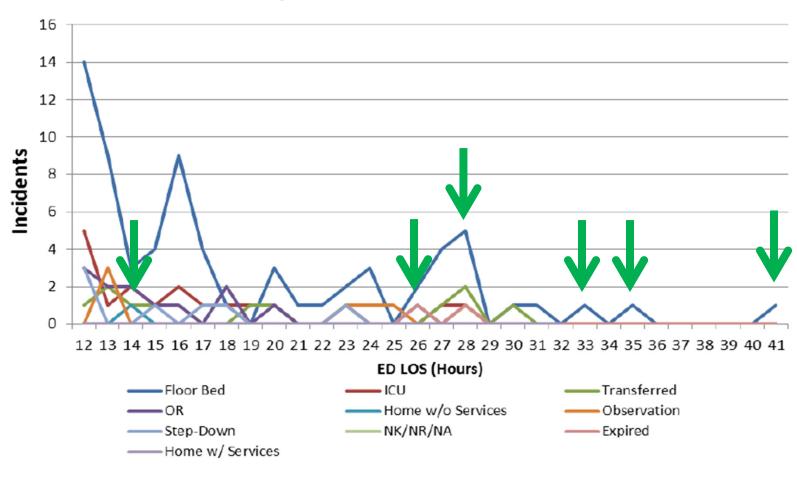


ED Length of Stay (Hours)



ED LOS > 12 Hours - Page 3

ED Disposition for ED LOS >12 Hours



N=91 *Two cases expired: one at 26 hours and the other at 28 hours

ED LOS > 12 Hours - Page 4

ED LOS > 12 Hours, N=91

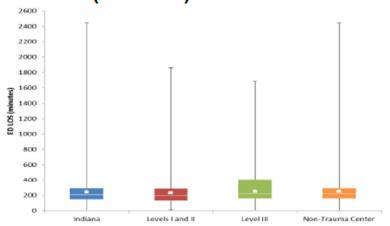
Facilities	42 Level I and II 15 Level III 34 Non-trauma Centers	ISS	52 (1-8 cat); 26 (9-15 cat); 8(16-24); 2 (25 -44); 3 (No ISS)	
Average Distance from Scene to Facility	7.1 Miles	RTS—Systolic	4 (3-4)	
Transport Type	73 Ambulance; 1 Helicopter, 16 Private Vehicle/Walk-In; 1 NK/NR	RTS—GCS Scale	3.9 (1-4)	
Trauma Type	85 Blunt; 6 Penetrating	RTS—Resp. Scale	3 (3-4)	
Cause of Injury	58 Fall; 14 MVC; 6 Struck by, Against; 5 Firearm; 7 Transport; 1 Cut/Pierce	RTS	7.5 (4.7-7.8)	
Signs of Life	85 Yes; 1 No; 5 NA	B Value	3.89 (0.0-5.7)	
Age	57.4 Years (0.1-97 Years)	Ps	0.97 (0.37-0.997)	
Gender	49 Female; 42 Male;	Resp. Assistance	12 Yes; 79 No	
Interfacility Transfer	9 Yes; 82 No	ED LOS	17.9 (12-40.7)	
Region	20 North; 49 Central; 10 South; 2 Missing	ED Disposition	47 Floor bed; 1 Home w/o services; 13 ICU; 7 Observation; 8 OR; 1 Other; 7 Step-down; 7 Transferred	

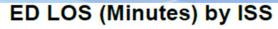
⁻Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

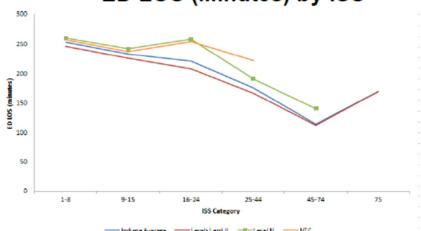
⁻Numbers represent counts per category or mean with minimum and maximum in parentheses.

ED Length of Stay: Bar & Whisker - Page 5

ED LOS (Minutes) - All Patients



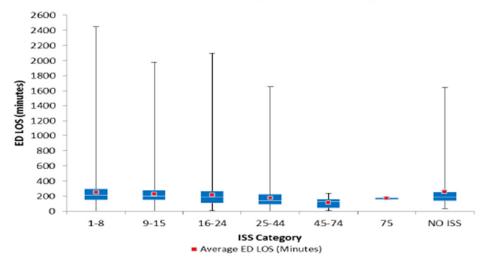




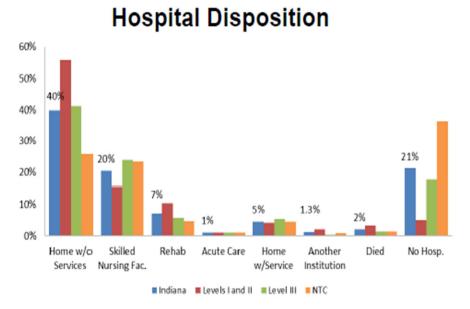
A table with all the values for ED LOS is found on page 47.

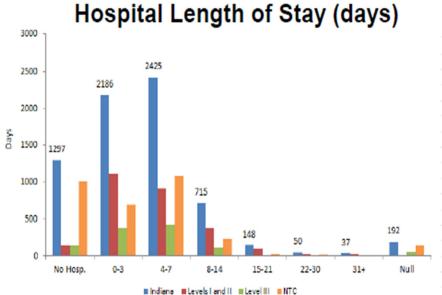
ED LOS (Minutes) by ISS

Note for EDLOS by ISS, there were 2 cases with ISS of 75; neither were at non-trauma centers.



Hospital Disposition and LOS - Page 6

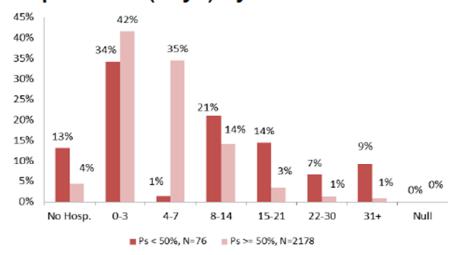




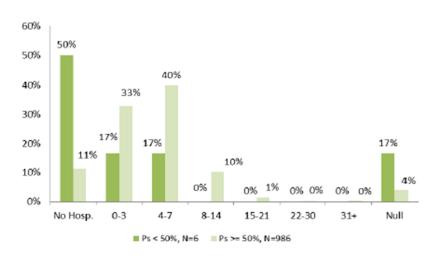
^{*}There are new categories for the Hospital Disposition for the 2014 Data Dictionary <1%: null, psych., long term care hospital, AMA, hospice and intermediate care.

Hospital LOS by Ps - Page 7

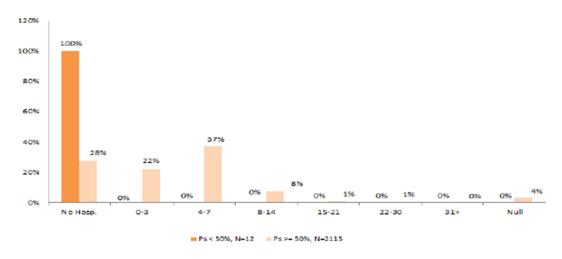
Hospital LOS (days) by Ps Levels I and II



Hospital LOS (days) by Ps Level III



Hospital LOS (days) by Ps Non-Trauma Centers



ED Disposition Expired - Page 8

ED Disposition of Expired for Ps ≥ 50%, N=5

Facilities	3 Non-Trauma Centers 2 Trauma Centers	ISS	2 (1-8 cat.); 3 (9-15 cat.)
Average Distance from Scene to Facility*	22.5 Miles	RTS—Systolic	3.20 (1-4)
Transport Type	4 Ground ambulance; 1 Helicopter;	RTS—GCS Scale	1.8 (0-4)
Trauma Type	5 Blunt	RTS—Resp. Scale	2.4 (0-3)
Cause of Injury	2 Falls; 3 MVC	RTS	4.6 (1.6-7.6)
Signs of Life	3 Yes; 2 Missing	B Value	1.9 (0.1-3.3)
Age	53.4 Years (15-91 Years)	Ps	0.8 (0.5-0.96)
Gender	1 Female; 4 Male	Resp. Assistance	3 Yes; 2 No
Interfacility Transfer	1 Yes; 4 No	ED LOS	2.7 hours (0.12-5.62 hours)
Region	1 North; 1 South; 3 Missing		

⁻Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

⁻Numbers represent counts per category or mean with minimum and maximum in parentheses.

Trauma Centers - Page 9

ED Dispo ≠ Expired, Hospital Dispo = Expired for Ps ≥ 50%, N=69, Trauma Centers

Interfacility Transfer	23 Yes	Interfacility Transfer	46 No
Average Distance from Scene to Facility	20.2 Miles	Average Distance from Scene to Facility	8.5 Miles
Transport Type	15 Ambulance; 7 Helicopter; 1 NK/NR	Transport Type	37 Ambulance; 6 Helicopter; 3 Private Vehicle
Trauma Type	15 Blunt; 2 Penetrating; 4 Burn; 2 Other	Trauma Type	40 Blunt; 2 Penetrating; 4 Other
Cause of Injury	12 Fall; 2 MVC; 2 Firearm; 4 Fire/ Burn; 1 Transport; 2 Not Categorized	Cause of Injury	24 Fall; 14 MVC; 2 Firearm; 1 Transport; 1 Struck By, Against; 4 Not Categorized
Signs of Life	17 Yes; 6 Unknown	Signs of Life	33 Yes; 2 No; 11 Unknown
Age	73.5 Years (22-93 Years)	Age	71 Years (1-98 Years)
Gender	8 Female; 15 Male	Gender	22 Female; 24 Male
Region	2 North; 11 Central; 4 South; 6 missing	Region	7 North; 24 Central; 5 South; 10 Missing
ISS	3 (1-8); 7 (9-15); 1 (16-24); 10 (25-44); 1 (45-74); 1 (75)	ISS	5 (1-8); 14 (9-15); 7 (16-24); 19 (25-44); 1 (45-74)
RTS—Systolic	4 (4-4)	RTS—Systolic	4.0 (3-4)
RTS—GCS Scale	2.6 (0-4)	RTS—GCS Scale	3.2 (0-4)
RTS—Resp. Scale	3 (3-3)	RTS—Resp. Scale	3.1 (3-4)
RTS	6.3 (3.8-7.6)	RTS	6.8 (3.8-7.8)
B Value	1.7 (0.05-3.5)	B Value	2.2 (0.2-4.2)
Ps	0.8 (0.5-0.97)	Ps	0.8 (0.6—0.99)
Resp. Assistance	13 Yes; 9 No; 1 NK/NR	Resp. Assistance	16 Yes; 28 No; 2 Unknown
ED LOS	1.8 Hours (0.3-3.9 Hours)	ED LOS	3.7 Hours (0.5-8.1 Hours)

⁻Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

⁻Numbers represent counts per category or mean with minimum and maximum in parentheses.

Non-Trauma Centers - Page 10

ED Dispo ≠ Expired, Hospital Dispo = Expired for Ps ≥ 50%, N=36, Non-trauma Centers

Interfacility Transfer	36 No
Average Distance from Scene to Facility	6.0 Miles
Transport Type	32 Ambulance; 1 Private Vehicle; 3 NK
Trauma Type	33 Blunt; 3 Other
Cause of Injury	32 Falls; 1 MVC; 3 Other
Signs of Life	35 Yes; 1 No
Age	79.4 Years (22-97 Years)
Gender	14 Females; 22 Males
Region	18 North; 11 Central; 6 South; 1 Missing
ISS	9 (1-8); 19 (9-15); 5 (16-24); 1 (25-44); 2 Unknown
RTS—Systolic	4.0 (4-4)
RTS—GCS Scale	3.5 (0-4)
RTS—Resp. Scale	3.0 (3-3)
RTS	7.1 (3.8-7.6)
B Value	2.8 (0.3-5.3)
Ps	0.9 (0.6-0.995)
Resp. Assistance	5 Yes; 28 No; 3 Unknown
ED LOS	3.7 Hours (1.9-8.1 Hours)

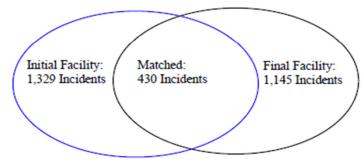
⁻Region was created from injury zip code. Missing = no injury zip or injury zip from out of state.

⁻Numbers represent counts per category or mean with minimum and maximum in parentheses.

Linking - Page 11

For Quarter 1, 2015, of the 7,050 incidents reported to the Indiana Trauma Registry, 1,329 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred, 430 cases were probabilistically matched. The linked cases make up 17% of the Q1 2015 data. All public health preparedness districts are represent-

ed. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.



The initial facility in which transfers come from may be considered Critical Access Hospitals (CAHs). All Indiana CAHs are considered Rural, and must meet additional requirements to have a CAH designation, such as having no more than 25 inpatient beds and being located in a rural area. Facilities that are highlighted indicate that these facilities reported data for Quarter 1, 2015.

Within this transfer data section, the purple columns represent the transfer cases and the single percentages represent the percent for the transfer cases. For two demographic variables, patient age groupings and gender, the Indiana average is included to provide more insight to this transfer population.

Indiana	Critical	Access	Hospitals	(CAHe)
ingiana	Critical	Access	HOSPITAIS	(CAHS)

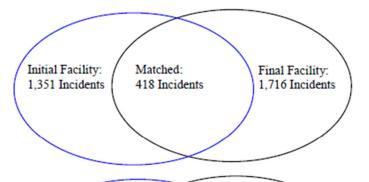
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	Adams Memorial Hospital	Pulaski Memorial Hospital
	Cameron Memorial Community Hospital Inc	Putnam County Hospital
	Community Hospital of Bremen Inc	Rush Memorial Hospital
	Decatur County Memorial Hospital	Scott Memorial Hospital
	Dukes Memorial Hospital	St Vincent Frankfort Hospital Inc
	Gibson General Hospital	St Vincent Jennings Hospital Inc
	Greene County General Hospital	St Vincent Mercy Hospital
	Harrison County Hospital	St Vincent Randolph Hospital Inc
	IU Health Bedford Hospital	St Vincent Salem Hospital Inc
	IU Health Blackford Hospital	St. Mary's Warrick Hospital Inc
	IU Health Paoli Hospital	St. Vincent Clay Hospital Inc
	IU Health Tipton Hospital	St. Vincent Dunn Hospital Inc
	IU Health White Memorial Hospital	St. Vincent Williamsport Hospital, Inc.
	Jasper County Hospital	Sullivan County Community Hospital
-	Jay County Hospital	Union Hospital Clinton
1	Margaret Mary Community Hospital Inc	Wabash County Hospital
ıt	Parkview LaGrange Hospital	Woodlawn Hospital
	Perry County Memorial Hospital	

Rural Hospitals

Center
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11

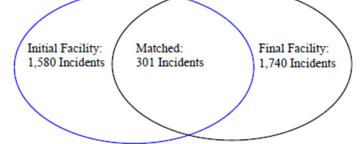
Historical Links - Page 12

Historical Links



For Quarter 2, 2014, of the 8,272 incidents reported to the Indiana Trauma Registry, 1,716 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

418 cases were probabilistically matched. The linked cases make up 13.7% of the Q2 2014 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.



For Quarter 3, 2014, of the 8,814 incidents reported to the Indiana Trauma Registry, 1580 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred.

301 cases were probabilistically matched. The linked cases make up 9.1% of the Q3 2014 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

Initial Facility: Matched: 200 Incidents Final Facility: 1,512 Incidents

For Quarter 4, 2014, of the 8,052 incidents reported to the Indiana Trauma Registry, 1472 cases that had an ED Disposition of "Transferred to another acute care facility" at the initial facility or that had the Inter-Facility Transfer equal to "Yes" at the Trauma Center. Of those transferred,

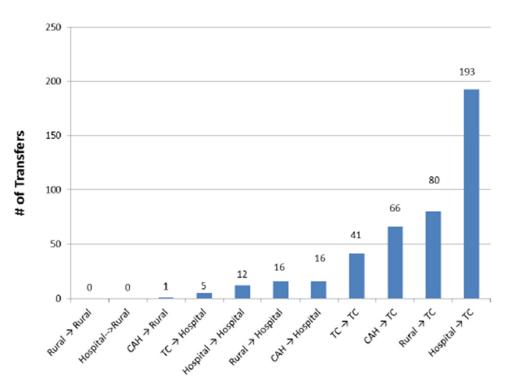
200 cases were probabilistically matched. The linked cases make up 6.7% of the Q4 2014 data. All public health preparedness districts are represented. The diagram below illustrates the overlap between the transfers reported from the initial facility and from the final facility that can be matched.

Transfer Patient: Facility Type - Page 13

Facility to Facility Transfers

For Transfer Patients:					
Initial Hospital Type	Final Hospital Type	Incident Counts			
Rural Hospital	Rural Hospital	0			
Hospital	Rural Hospital	0			
Critical Access Hospital	Rural	1			
Trauma Center	Hospital	5			
Hospital	Hospital	12			
Rural	Hospital	16			
Critical Access Hospital	Hospital	16			
Trauma Center	Trauma Center	41			
Critical Access Hospital	Trauma Center	66			
Rural Hospital	Trauma Center	80			
Hospital	Trauma Center	193			

Facility Transfer Type



Rural = Rural Hospital; TC = ACS Verified or In Process Trauma Center;

CAH = Critical Access Hospital; Hospital = does not fall into above categories

Linked Transfer Patient Averages - Page 14

For Linked Transfer Patients:

For Transfer Patients:						
	All Transfer Patients	Critical*	Physiological Crit- ical**	ISS Critical***	<u>Ps <0.5****</u>	
Number of Patients	430	415	414	38	2	
EMS Notified to Sce- ne	11.1 minutes	7.7 minutes	7.8 minutes	8.0 minutes	10.5 minutes	
EMS Scene Arrival to Departure	16.9 minutes	16.3 minutes	16.3 minutes	15.8 minutes	8.5 minutes	
EMS Scene Depar- ture to Initial Hospital ED Arrival	17.1 minutes	16.9 minutes	16.7 minutes	17.2 minutes	10 minutes	
Initial Hospital ED Arrival to Departure	3 hours 0.5 minutes	3 hours 4.3 minutes	3 hours 5.6 minutes	2 hours 34.4 minutes	1 hour 39 minutes	
Initial Hospital ED Departure to Final Hospital ED Arrival	57.8 minutes	57.5 minutes	57.1 minutes	55.1 minutes	48 minutes	
TOTAL TIME	4 hours 43.4 minutes	4 hours 42.7 minutes	4 hours 43.5 minutes	4 hours 10.5 minutes	2 hours 56 minutes	

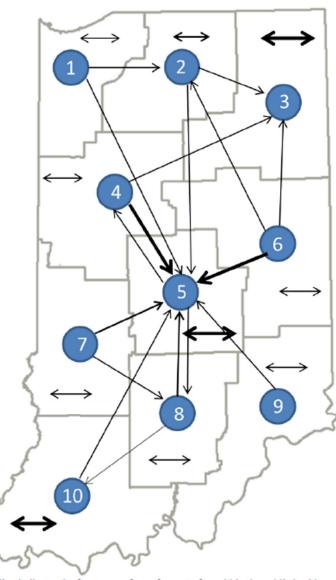
^{*}Critical patient is defined as having a GCS ≤ 12, OR Shock Index > 0.9 OR ISS > 15 at the initial hospital.

^{**}Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

^{***}ISS Critical Transfer patient is defined as having an ISS > 15.

^{****}Patients with a probability of survival ≤ 0.5.

Transfer Patient Data - Page 15



*The thickness of the line indicates the frequency of transfers out of or within the public health preparedness district. The circles represent transfers from a specific PHPD, not of a specific hospital or county, 8.50 in

For Transfer Patients:		
Public Health Preparedness District Initial Hospital	Public Health Preparedness District Final Hospital	Incident Counts
1	1	7
1	2	6
1	5	3
2	2	17
2	3	4
2	5	7
3	3	80
4	3	2
4	4	9
4	5	37
5	4	1
5	5	63
5	8	3
6	2	1
6	3	2
6	5	52
6	6	9
7	5	33
7	7	2
7	8	1
8	5	22
8	8	9
8	10	2
9	5 9	8 1
10	5	1
10	10	48

Transfer Patient Data - Page 16

For Linked Transfer Patients:

For Transfer Patients:						
	All Transfer Patients	Critical*	Physiological Criti- cal**	ISS Critical***	<u>Ps <0.5****</u>	
Number of Patients	430	415	414	38	2	
Total Time	4 hours 43.4 minutes	4 hours 42.7 minutes	4 hours 43.5 minutes	4 hours 10.5 minutes	2 hours 56 minutes	
Total Mileage	53.8	54.1	54.2	59.8	77.4	
Injury Scene to Initial Hospital Mileage***	8.1	8.1	8.1	7.3	9.7	
Initial Facility to Final Facility Mileage	45.7	46	46	52.5	67.7	

Estimated Average Distance (miles) by Region (region of final hospital):							
Region	Injury Scene to Initial Facility Mileage	Initial Facility to Final Facility Mileage	Total Mileage	Drive Count	Air Count		
Indiana Average	8.1	45.7	53.8	372	58		
North Region	7.2	44.7	51.9	189	22		
Central Region	8.3	47.9	56.3	99	23		
South Region	9.6	45.2	54.8	84	13		

^{*}Critical patient is defined as having a GCS ≤ 12, OR Shock Index > 0.9 OR ISS > 15 at the initial hospital.

^{**}Physiological Critical Transfer patient is defined as having a Shock Index > 0.9 OR GCS ≤ 12 at the initial hospital.

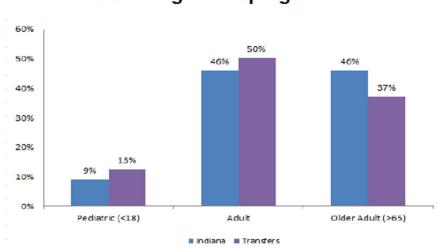
^{***} ISS Critical Transfer patient is defined as ISS > 15 at the initial hospital.

^{****}Probability of Survival < 0.5

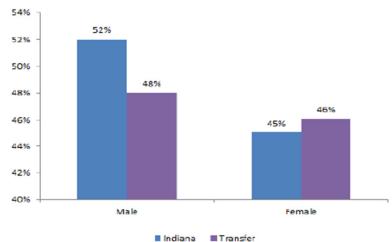
[†]Injury Scene to Initial Facility Mileage location estimated by zip code centroid Statistics for Estimated Average Distance by Region calculated by Public Health Geographics, Epidemiology Resource Center, ISDH

Transfer Patient Population - Page 17

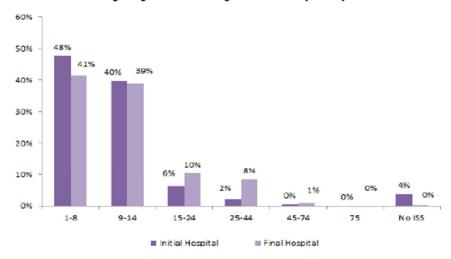
Patient Age Groupings



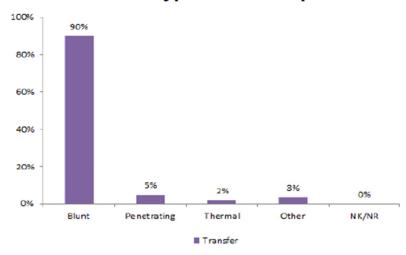
Patient Gender



Injury Severity Score (ISS)

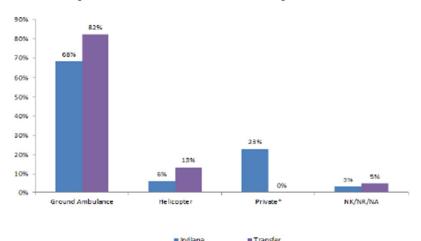


Trauma Type- Final Hospital



Transfer Patient Population - Page 18

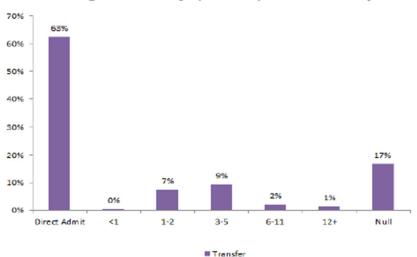
Transport Mode- Final Hospital



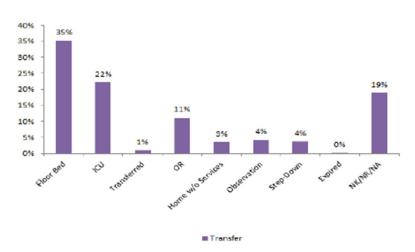
<1% Transport Mode: Police, Other

* Indicates Private/ Public Vehicle, Walk-in

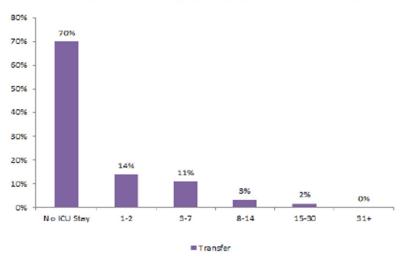
ED Length of Stay (hours)- Final Hospital



ED Disposition by Percentage- Final Hospital

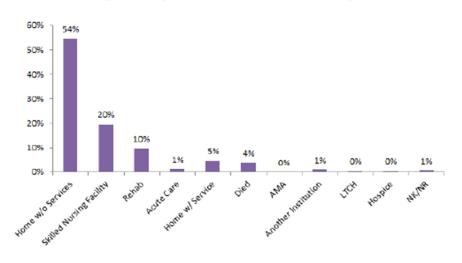


ICU Length of Stay (days)- Final Hospital



Transfer Patient Population - Page 19

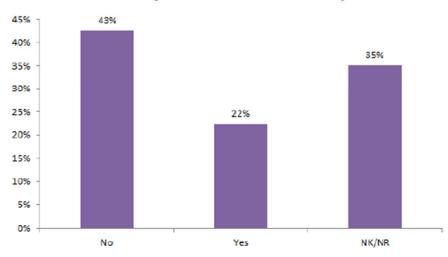
Discharge Disposition-Final Hospital



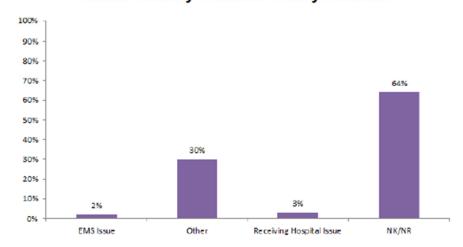
Helicopter Transfers by ISS- Final Hospital



Transfer Delay Indicated-Initial Hospital



Initial Facility Transfer Delay Reason



Not Reporting Map - Page 20

Indiana State Department of Health Indiana Trauma Registry

Hospitals Not Reporting Trauma Data to the Indiana Trauma Registry

Adams Memorial Hospital
Bluffton Regional Medical Center
Community Westview Hospital
IU Health - West Hospital
Kentuckiana Medical Center

Parkview Wabash Hospital

Richard L Roudebush VA Medical Center

St. Joseph Hospital (Fort Wayne)

St. Mary Medical Center Hobart

St. Vincent - Carmel Hospital

St. Vincent - Dunn Hospital

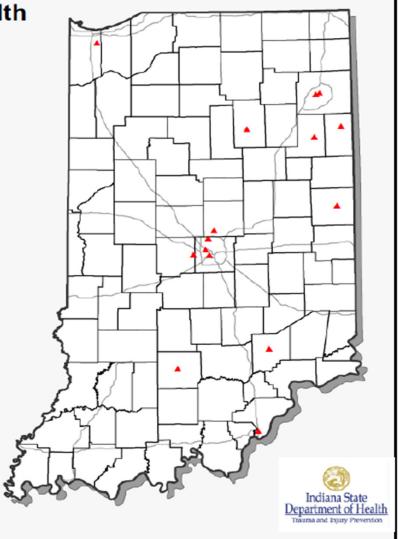
St. Vincent - Fishers Hospital

St. Vincent - Jennings Hospital

St. Vincent - Peyton Manning Children's Hospital

St. Vincent - Randolph Hospital

VA Northern IN Healthcare System



Not reporting as of 7/15/2015

Map Author: ISCH ERC PHG and ISDH Trauma & Injury Prevention - July 2015

Reporting Map - Page 50

Indiana State Department of Health Indiana Trauma Registry

Hospitals Reporting Trauma Data Quarter 1, 2015 January 1 - March 31, 2015

TIT Level I and II Trauma Centers

Deaconess Hospital
Eskenazi Health
IU Health - Methodist Hospital
Memorial Hospital of South Bend
Parkview Regional Medical Center
Riley Hospital for Children at IU Health
St. Mary's Medical Center of Evansville
St. Vincent Indianapolis Hospital

Level III Trauma Centers

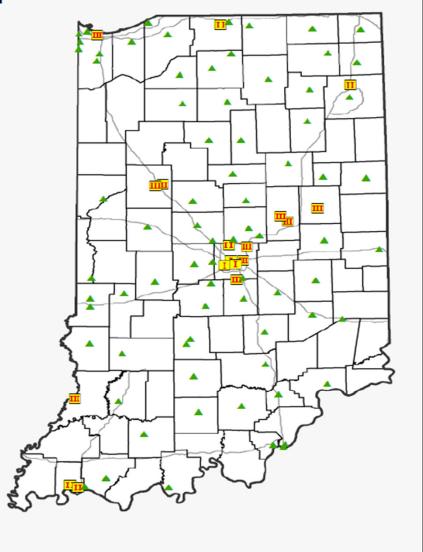
Community Hospital of Anderson Community Hospital - East Community Hospital - North Community Hospital - South Franciscan St. Elizabeth East Hospital Good Samaritan Hospital IU Health - Arnett Hospital IU Health - Ball Memorial Hospital Methodist Hospital - Northlake Campus St. Vincent Anderson Regional Hospital

▲ Non-Trauma Hospitals

76 Non-Trauma Hospitals

Hospital categories include Verified and "In the Process" Trauma Centers





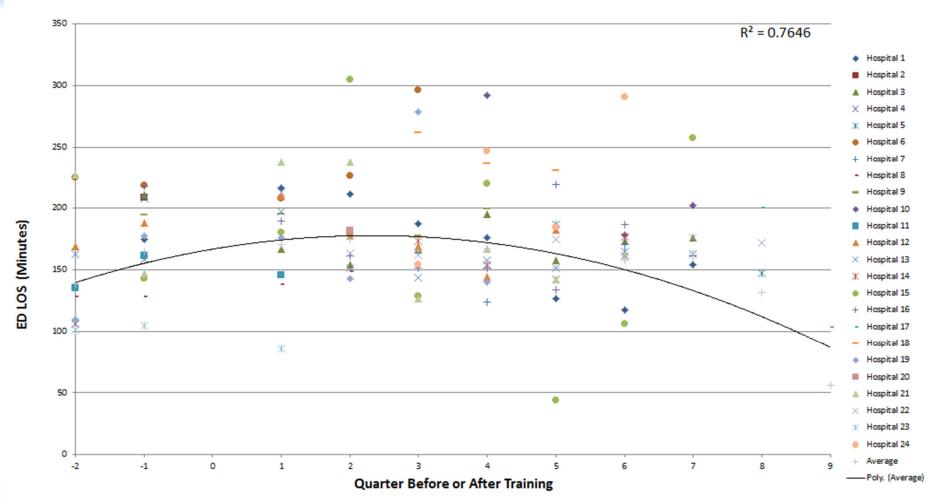
Map Author: ISDH ERC PHG and ISDH Trauma & Injury Prevention - July 2015

Linked Data Between Trauma & EMS

 1,238 probabilistically linked cases for Q1 2015 between the EMS Registry and Trauma Registry

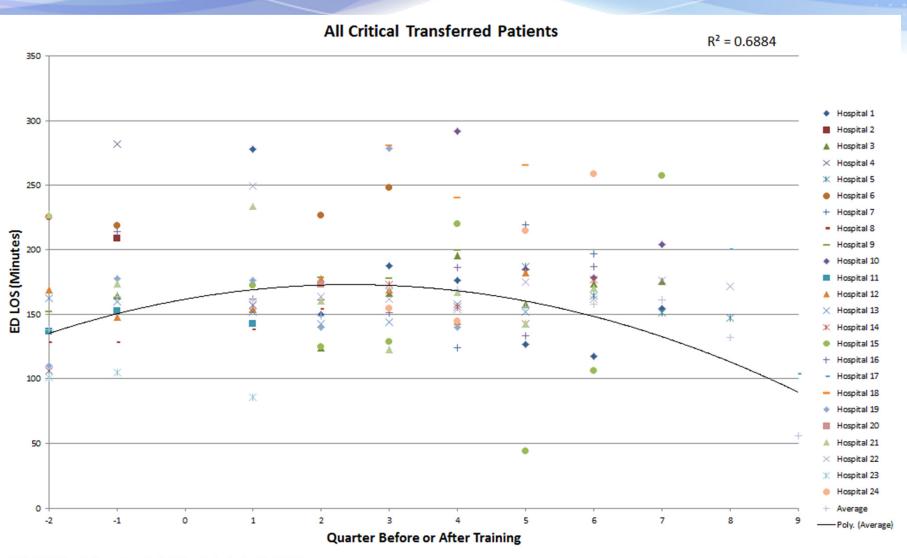
Rural Trauma Team Development Course (RTTDC)

All Transferred Patients



^{*}This ED LOS analysis was done for facilities who had taken the RTTDC course.

RTTDC - Critical Patients



^{*}This ED LOS analysis was done for facilities who had taken the RTTDC course.

^{*}Critical patients had a GCS ≤ 12 or Shock Index > 0.9 or Injury Severity Score > 15 at the initial hospital.

Questions?

